

March 1, 1910.

Dr. A. SMITH WOODWARD, F.R.S., Vice-President,
in the Chair.

The Secretary exhibited photographs of a Thylacine (*Thylacinus cynocephalus*) and three cubs which had been sent him by Mrs. Mary G. Roberts, C.M.Z.S., of Hobart, Tasmania. Mrs. Roberts had informed him by letter that the Thylacines had been in her possession for about eight months, and were tame and playful, and that the mother had nursed them until they were nearly as large as herself, although throughout that time they had also taken raw meat. Mrs. Roberts added that the Thylacine had extremely strong maternal instincts and that these animals, in her opinion, were not of low intelligence.

The Secretary called attention to the recently published 'Camera Adventures in the African Wilds,' by A. Radclyffe Dugmore, remarking on the great additions to knowledge of wild animals that were being obtained by this new form of sport. He directed special attention to the photographs of Grèvy's Zebra, obtained near the Guaso Nyiro River, not far from Mt. Kenia, as evidence of the range of that species, and to an extremely interesting photograph of the Giant Bush-Pig (*Hylochaerus meinertzhageni*) taken in the same locality.

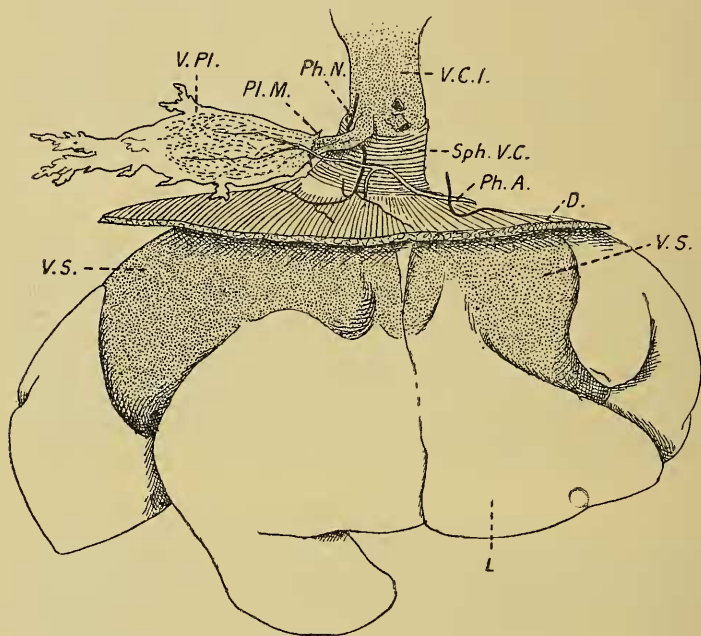
Mr. R. H. Burne, M.A., F.Z.S., exhibited a preparation * of the vena cava inferior, diaphragm, and liver of a Seal (*Phoca vitulina*) that had lately been living in the Society's Gardens. The specimen showed a strong sphincter band of muscle (*Sph. V.C.*) surrounding the lower end of the thoracic vena cava similar to that which was figured in the case of a Walrus in a note in the 'Proceedings' last year (p. 733). But this preparation showed in addition the continuity of some few of the muscle-fibres of the sphincter venæ cavæ with those of the diaphragm towards the left ventral side and the innervation of the sphincter by a branch of the phrenic nerve (*Ph.N.*). The vena cava was injected so that the enormous size of the venous reservoir (*V.S.*) formed by the dilatation of the vena cava and hepatic veins in the upper part of the liver could be clearly seen. Some reference was made to speculations on the physiological significance of these structures † in relation to the special needs of an aquatic life.

* R. College of Surgeons Museum, Physical Series, No. 980 E a a (prepared by the Prosector, Mr. W. Pearson).

† Gratiolet, 'Anatomie de l'Hippopotame,' p. 370. Burne, P. Z. S. 1909, p. 734. Paramore, 'Lancet,' 1910, May 28th.

Particular attention was drawn to a pair of venous plexuses* (*V.Pl.*) connected with the ventral surface of the vena cava just above the sphincter venæ cavæ. The plexus consisted of a coil of branching veins of considerable size and a relatively minute artery derived from the phrenic artery (*Ph.A.*). The blood-vessels with a small amount of fat lay enclosed within a sac of pleural membrane

Text-fig. 39.



The thoracic and hepatic vena cava inferior and liver of a Seal (*Phoca vitulina*).

D. Diaphragm; *L.* Liver; *Ph.A.* Phrenic artery; *Ph.N.* Phrenic nerve; *Pl.M.* Pleural membrane (cut edge); *Sph.V.C.* Sphincter venæ cavæ; *V.C.I.* Vena cava inferior (thoracic); *V.Pl.* Venous plexus; *V.S.* Venous sinus.

(*Pl.M.*), the whole structure projecting freely into the pleural cavity at the point of contact of the pleura and pericardium. The margins of the pleural sac were produced to form a fringe of arborescences, which were compared (following a suggestion of Professor Keith) with the fimbriæ of the synovial fringes in the

* The plexus of the left side was accidentally removed.

joints or to the Pacchionian bodies in the venous sinuses of the dura mater.

It was suggested that these pleural venous plexuses were possibly of use in regulating the pressure of the pleural fluid in a manner similar to that in which the pressure of the cerebro-spinal fluid is regulated by the Pacchionian bodies.

Mr. Frank E. Beddard, M.A., F.R.S., F.Z.S., Prosector to the Society, exhibited a series of specimens of Earthworms from Luzon, Philippine Islands.

Dr. C. W. Andrews, F.R.S., F.Z.S., exhibited and made remarks upon some teeth of *Elephas (Stegodon) insignis* and of a species of horse from China. The former were from Sze-chuen, probably from beds of Lower Pliocene age, and were sent to the British Museum by the Rev. W. C. Taylor, of the China Island Mission. The horse teeth were from Tsi shan, N. China, from a depth of about 300 feet in the Loess, probably of Pleistocene age; these were sent by the Rev. R. Gillies, also of the China Inland Mission.

Dr. R. T. Leiper, F.Z.S., exhibited the larval stage of *Trichostrongylus pergracilis*, the causal factor of Grouse disease. He found experimentally that the development follows almost exactly the same course as that of the Ankylostome—the cause of miner's disease in Cornwall. The egg developed into embryos in about two days, and metamorphosed on the eighth day into a peculiarly active larva that climbed heather only in wet weather. These larvæ were found in extraordinary numbers on the plants, the roots of which were experimentally infected. Subsequent drying did not kill the larvæ, for by encysting they could survive several weeks without additional moisture, but were unable, however, to resist desiccation. They underwent no further developmental change, and this stage, when fed to healthy Grouse, alone was able to produce infection, and within four days eggs were found in the droppings.

Dr. Leiper also exhibited a specimen of *Cyclops* containing a living embryo of *Cucullanus elegans*, a blood-sucking parasite of Perch, and discussed the mode of entry into *Cyclops* of this worm and the guinea-worm. Experiments showed that the embryos only penetrated living Cyclopidae, and led to the conclusion that the *Cyclops* actually swallowed the living embryos and that these penetrated the stomach.
